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NOTICE OF ALLOWANCE AND FEE(S) DUE

34872 7590 12/16/2008

Basell USA Inc.
Delaware Corporate Center II
2 Righter Parkway, Suite #300
Wilmington, DE 19803

EXAMINER	
LEE, RIP A	
ART UNIT	PAPER NUMBER
1796	

DATE MAILED: 12/16/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,343	01/09/2006	Volker Dolle	8019.100	7375

TITLE OF INVENTION: MOLDING COMPOSITIONS MADE FROM HIGH-MOLECULAR-WEIGHT-PROPYLENE POLYMER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	03/16/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

34872 7590 12/16/2008

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Delaware Corporate Center II
2 Righter Parkway, Suite #300
Wilmington, DE 19803

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

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10/539,343	01/09/2006	Volker Dolle	8019.100	7375

TITLE OF INVENTION: MOLDING COMPOSITIONS MADE FROM HIGH-MOLECULAR-WEIGHT-PROPYLENE POLYMER

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nonprovisional	NO	$1510	$300	$0	$1810	03/16/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEE, RIP A	1796	524-090000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 147 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 147 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/539,343	DOLLE ET AL.	
	Examiner	Art Unit	
	RIP A. LEE	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *October 8, 2008*.

2. ☒ The allowed claim(s) is/are *15-39*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 10-08-2008
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/RAL/	/Vasu Jagannathan/ Supervisory Patent Examiner, Art Unit 1796

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 15-39 are allowed over the closest references cited below.

The instant invention is drawn to a thick-walled pipe comprising a diameter of at least 500 mm and a wall thickness of at least 28.4 mm, wherein the thick-walled pipe comprises a molding composition, the molding composition comprising:

- a high molecular weight propylene polymer comprising a melt flow rate MFR (230 °C, 5 kg) of from 0.3 to 1 g/10 min,
- a quinacridone pigment, and
- 2 to 8 % by weight of β-modification crystallites.

Another aspect of the invention is drawn to a process for preparing a said thick-walled pipe comprising mixing the high molecular weight propylene polymer and the quinacridone pigment, melting the high molecular weight propylene polymer and quinacridone pigment to form a quinacridone propylene polymer mixture, and extruding the quinacridon propylene polymer mixture.

Inventive pipes exhibit very smooth internal surface and very good results for circularity and bore thickenss distribution while maintaining long term internal hydrostatic pressure (tested by DIN 8078). Pipes fully comply with the requirements of DIN 8077 with respect to dimensional limits for the average external diameter and ovality and the dimensional limit for wall thickness.

The seminal work of Jacoby *et al.* (U.S. 5,310,584) teaches incorporation of the γ-form quinacridone pigment (Q-dye) into polypropylene resin to induce β-spherulite formation in the resin; that is, the pigment serves as nucleating agent to induce crystallization of polypropylene in the beta, or pseudohexagonal, crystal form. The content of β-crystallites is determined by x-ray diffraction methods and characterized empirically with a "K parameter" which varies from 0 (no β-crystallites) to 1 (sample with all β-crystallites). Inventive compositions contain from about 0.1 to about 10 ppm of quinacridone such that the composition exhibit a K value of about 0.3 to

0.95. As an example, polypropylene having a melt flow rate of 3.01 g/10 min containing 1.0 ppm (0.0001 wt %) of Q-dye exhibits a K value of 0.374. A sample prepared in similar fashion and containing polypropylene (MFR = 3.20) and 1.5 ppm of Q-dye exhibits a K value of 0.489. In another example, a polypropylene resin (MFR = 2.85) containing 2.0 ppm of Q-dye, exhibits a K value of 0.743. For a given method, it appears that β-crystalline content may increase with increasing level of nucleating agent within a certain range.

It is important to note that crystallinity of a sample, while affected by the content and type of nucleating agent, is primarily governed by the method of preparation of the sample. Factors include, rate of cooling of sample and temperature of onset of crystallization. This phenomenon is well known to those having ordinary skill in the art. Naoki *et al.* (EP 962 489) is instructive. The reference compares effects of various β-nucleating agent on the content of β-form content of extruded sheet. In one sample, a composition of propylene homopolymer (MFR = 14 g/10 min) and 0.05 parts by weight of *N,N'*-dicyclohexyl terephthalimide were milled and pelletized; resulting pellets were melted pellets 230 °C for 10 min and compression molded at 60 °C for 5 min to form a 0.5 mm thick sheet. The sheet exhibited a β-form content of 95 %. Another sheet was made under identical conditions except the terephthalimide nucleating agent was replaced with an equivalent amount of γ-quinacridone. The resulting sheet showed only a trace amount of β-form.

As another example, JP 49-98478 discloses an opaque microporous polypropylene film prepared by stretching an isotactic polypropylene resin containing 0.05 % of γ-form quinacridone into a 400 μm thick sheet and having a β-modification content of 75 %. The sheet was then simultaneously biaxially stretched 300 % at 125° to give a film having a β-modification content of 10 %. In this case, it can be seen that the nucleation and crystallization process which affect the β-modification content is controlled by physical manipulation of the sample.

This particular reference is silent with respect to the melt flow rate of the polymer. The reference neither teaches the composition nor the pipe of the instant claims, and one having ordinary skill in the art would not have found it obvious to use the microporous propylene composition for manufacture of a pipe.

Moos *et al.* (*Die Angewandte Makromolekulare Chemie*, 1981, 213-225, 213-225), cited in the recent information disclosure statement dated October 8, 2008, examines the effect of a quinacridone red paint pigment on the relative proportions of α and β modification in isothermally crystallized samples of isotactic polypropylene. Investigators conclude that relative portions of α and β modification are not attributed only to the different distribution of pigment in the polymer, and apparently, tempering and "memory" effects such as cooling rate are of importance.

Helberg *et al.* (EP 278 470) represents the closest art. The patent discloses preparation of polypropylene compositions containing propylene homopolymer or copolymer having a melt index (230 °C, 5 kg) less than 5 g/10 min, preferably less than 2 g/10 min, and 0.001 to 0.5 wt % of various nucleating agents selected from sodium benzoate, aluminum *p-tert*-butylbenzoate, calcium montanate, quinacridone, and talc. Compositions are well-suited for extrusion of plastic profile and pipe. One composition is prepared from polypropylene-ethylene copolymer (5 wt % ethylene) having a melt index of 0.3 g/10 min and 0.001 wt % of quinacridone. The polymer exhibits the claimed lower range of melt index, and the composition contains the lower limit of quinacridone recited in the claims. However, the reference does not teach a composition containing the claimed 2 to 8 wt % of β-modification crystallites. While the content of β-modification crystallites is affected to some extent by the amount and type of nucleating agent, the content of a particular crystalline phase, such as the β-form of polypropylene, also depends on the method of preparation of the sample. Helberg *et al.* is deficient in disclosing experimental details for making the contemplated pipe to lead one of ordinary skill in the art to conclude that the resulting composition inherently and necessarily exhibits the claimed 2 to 8 wt % of β-modification crystallites, and the reference provides no motivation or suggestion to make a composition with this particular β-modification content. Also, the reference does not disclose pipe having the claimed dimensions. Based on these considerations, it is deemed that Helberg *et al.* does not teach or reasonably suggest the pipe described in the present claims.

Ebner *et al.* (EP 1 448 631; August 25, 2004) was cited in Applicant's recent information disclosure statement dated October 8, 2008. The cited reference and corresponding family of documents, EP 1 312 623 (May 5, 2003) and U.S. 2005/0053741 (filing date May 13, 2004) disclose a pressure pipe made from a composition of quinacridone nucleating agent and polypropylene having a melt flow rate in the range of 0.1-2 g/10 min, and preferable less than 1 g/10 min. The references do not teach a composition containing the claimed 2 to 8 wt % of β-modification crystallites. While the content of β-modification crystallites is affected to some extent by the amount and type of nucleating agent, the content of a particular crystalline phase, such as the β-form of polypropylene, also depends on the method of preparation of the sample. Helberg *et al.* is deficient in disclosing experimental details for making the contemplated pipe to lead one of ordinary skill in the art to conclude that the resulting composition inherently and necessarily exhibits the claimed 2 to 8 wt % of β-modification crystallites, and the reference provides no motivation or suggestion to make a composition with this particular β-modification content. Moreover, none of the references antedates Applicant's provisional date of January 27, 2003.

Iwashita *et al.* (JP 9-291114) discloses a polypropylene resin composition that exhibits a β-crystallite rate of at least 10 % when measured using a press-molded form subjected to isothermal crystallization at 30 ºC and 100 ºC such that $\beta\ (30) > \beta\ (100)$. Polypropylene is characterized by a melt flow rate of 0.05-1000 g/10 min. The reference does not disclose a composition containing the claimed 2 to 8 wt % of β-modification crystallites, and there is no teaching of making a pipe of dimensions cited in the instant claims. Therefore, Iwashita *et al.* does not teach or render obvious the instant invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Art Unit 1796

December 11, 2008

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796